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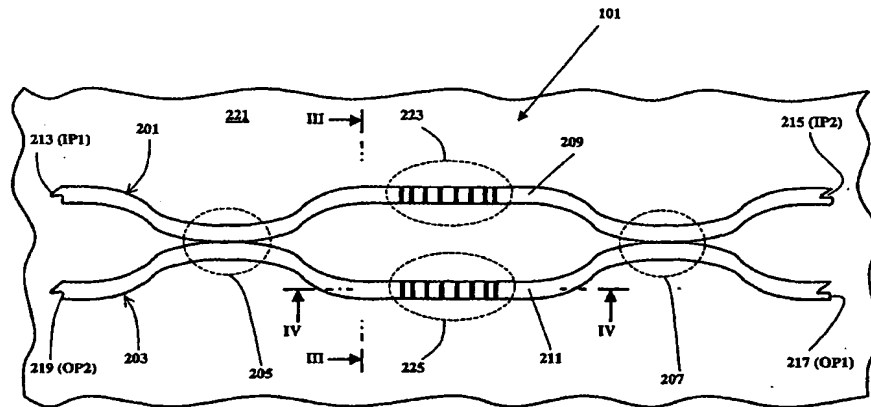
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(54) Title: INTEGRATED OPTICAL DEVICE



(57) Abstract: An integrated optical device comprises a first and a second integrated waveguides (201, 203) arranged so as to be in optical coupling relationship in a first and a second spaced-apart coupling regions (205, 207), and having respective optically uncoupled waveguide sections (209, 211) in between the first and second coupling regions. A first and a second modulated refractive index structures (223, 225) are provided, each one formed along a respective uncoupled waveguide section; the modulated refractive index structures comprises each at least one pair of regions (403, 401) of mutually different refractive index, adjacent to each other along the respective uncoupled waveguide section. The regions of mutually different refractive index comprise a portion (403) of the respective uncoupled waveguide section and a gap (401) formed in the uncoupled waveguide section, the refractive indexes of the regions differing from each other of at least approximately 1.5 %. The device can be exploited to form optical multiplexers/demultiplexers, particularly adapted to the use in wavelength division multiplexing optical communications.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 02/10902

A. CLASSIFICATION OF SUBJECT MATTER  
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G02B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 99 42899 A (LIGHTWAVE MICROSYSTEMS CORP) 26 August 1999 (1999-08-26) abstract; figures 13-17 page 24, line 3 - line 9 page 24, line 23 - line 30 ---	1-23
Y	US 4 790 614 A (SANO HIROHISA ET AL) 13 December 1988 (1988-12-13) cited in the application abstract; figures 2,10 column 4, line 51 - line 56 column 8, line 2 - line 3 column 8, line 53 - line 62 column 9, line 35 - line 45 ---	1-23
A	EP 0 647 861 A (AT & T CORP) 12 April 1995 (1995-04-12) abstract; figures 3,5-8 ---	1-23

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☒ Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 940 568 A (LOESCH KURT) 17 August 1999 (1999-08-17) abstract; figure 6 -----	1-23

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Information on patent family members

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